
Ca' Foscari University of Venice

Department of Economics

Working Paper

Michael Donadelli and
Marcella Lucchetta

# Emerging Stock Premia: Do Industries Matter?


ISSN: 1827/3580
No. 22/WP/2012

Working Papers
Department of Economics
Ca' Foscari University of Venice
No. 22/WP/2012
ISSN 1827-3580

# Emerging Stock Premia: Do Industries Matter?

**Michael Donadelli**
*LUISS&CASMEF*

**Marcella Lucchetta**
*Università Ca' Foscari Venezia*

First Draft: August, 2012

**Abstract**
This paper studies the dynamics of emerging excess returns in a industry-by-industry context. Differently from the recent financial literature, which mainly focuses on "total market indexes", we perform a standard ex-post empirical analysis aimed at capturing the industries' contribution to country stock performances. We obtain three key empirical findings. First, at industry level, we confirm the "high performance-high volatile nature" as well as the time-varying component of emerging excess returns. Second, at country level and in a dynamic context, we detect those industries that mainly contribute to the presence of emerging stock premia. Third, we show that some industries are much more exposed to global factors than others. We argue that these results display relevant implications for portfolio diversification and reflect consumption smoothing motive

**Keywords**
Industry Excess Returns, Emerging Stock Premia, Time-Varying Performances
**JEL Codes**
D82, F36,F44 G11, G15

*Address for correspondence*:
**Marcella Lucchetta**
Department of Economics
Ca' Foscari University of Venice
Cannaregio 873, Fondamenta S.Giobbe
30121 Venezia - Italy
Phone: (++39) 041 2349191
Fax: (++39) 041 2349176
e-mail: lucchett@unive.it



The Working Paper Series
is available only on line
(www.dse.unive.it/pubblicazioni)
For editorial correspondence, please contact:
wp.dse@unive.it

Department of Economics
Ca' Foscari University of Venice
Cannaregio 873, Fondamenta San Giobbe
30121 Venice Italy
Fax: ++39 041 2349210

# Emerging Stock Premia: Do Industries Matter?*

Michael Donadelli†
LUISS & CASMEF

Marcella Lucchetta‡
Università Ca' Foscari Venezia

This Draft: August, 2012

**Abstract**

This paper studies the dynamics of emerging excess returns in a industry-by-industry context. Differently from the recent financial literature, which mainly focuses on "total market indexes", we perform a standard ex-post empirical analysis aimed at capturing the industries' contribution to country stock performances. We obtain three key empirical findings. First, at industry level, we confirm the "high performance-high volatile nature" as well as the time-varying component of emerging excess returns. Second, at country level and in a dynamic context, we detect those industries that mainly contribute to the presence of emerging stock premia. Third, we show that some industries are much more exposed to global factors than others. We argue that these results display relevant implications for portfolio diversification and reflect consumption smoothing motive. (***JEL**: D82, F36,F44 G11, G15. **Keywords**: Industry Excess Returns, Emerging Stock Premia, Time-Varying Performances.*)

*We thank Nicola Borri, Max Croce and Paolo Vitale. All errors in this paper are the authors' responsability.

†Corresponding Author: Michael Donadelli, LUISS Guido Carli, Department of Economics and Finance, Viale Romania, 32, 00197 Rome, Italy. E-mail: mdonadelli@luiss.it

‡Contact information: Marcella Lucchetta, Universitá Ca' Foscari Venezia, Department of Economics, San Giobbe 873, 30135 Venice, Italy. E-mail: lucchett@unive.it

# 1 Introduction and Motivations

The dynamic characteristics of emerging stock premia have been largely explored in the recent financial literature.[1] The most common results is: "emerging markets compensate investors with high average returns and provide diversification benefits".[2] In most recent years, particular attention has been given to the study of the effects of the global integration of emerging excess returns. Recent empirical findings document an increasingly positive trend of the degree of comovement between international stock markets as well as between real cycles (see Fig. 4.1).[3] A key issue in all these studies is that emerging markets are heavily exposed to international cycles.

We argue that a small number of studies have been devoted to study the implications of emerging industries' performances in generating extra premia, providing portfolio diversification benefits and preserving households' consumption smoothing motive. We improve the existing literature into two main directions. First, we provide new empirical evidence based on an extensive emerging markets' dataset. In contrast to a large number of empirical studies, which generally employ "Total Market Indexes", we analyze the dynamic performances, at country level, of emerging excess returns focusing only on "Industry Indexes". The industry-based analysis allows us to capture the main sources of the observed emerging stock premia. Second, we briefly discuss the implications of our empirical findings in a mean-variance portfolio diversification and in a consumption-based asset pricing frameworks. Not surprisingly, we find that many emerging industries are globally integrated, but in some countries and for specific industries, emerging stocks still allow for consumption smoothing motive and diversification benefits.[4]

We stress that the results presented in this project have two strong real implications. First, we find that some industry-based investments generate portfolio diversification benefits, both across countries and periods. For instance, in the recent period technology, consumer good, consumer service and telecomunication sectors would allow a "smart" portfolio composition than what suggested by a simple country-based analysis. Second, we show that the exposure to the global market factor across industries is quite heterogeneous.

The paper is organized as follows. Section 2 briefly introduces the literature. Section 3 shows some stylized facts on international excess returns. This part presents the core of the work illustrating the data used, the main results of the industry-by-industry spread analysis though time and the CAPM estimation of the industry average spread by country. Section 4 disentangles the effects of the global integration on emerging stock market returns focusing on international cycles and stock markets comovements. Section 5 concludes.

# 2 Related Literature

During the last decade, particular attention has been given to key drivers of emerging stock returns' patterns. Few works have been devoted to the cross-country dynamics of industries' returns. In this paper, we re-evaluate the importance of industries' performances in explaining emerging market stock premia. Several empirical results have been found either using a limited number of observations or focusing on the market index as a whole. Roll (1992) find that the industry component is significant, which means that stocks from different countries, but from the same industry, are correlated. Therefore, countries whose stock markets are similar in terms of industry composition will be interdependent (i.e. industry composition is significant

[1] See Bekaert and Harvey (1995, 1997, 2000), Bekaert et al. (1998), De Jong and De Roon (2005), Donadelli and Prosperi (2012a,b), Salomons and Grootveld (2003), among many others.

[2] For a detailed discussion on the diversification benefits of investing in emerging markets, see Barry et al.(1997) and Claessens et al.(1995).

[3] See Bekaert and Harvey (1997, 2000), Bekaert et al. (1998), Carrieri et al. (2007), Donadelli and Prosperi (2012,a), Henry (2000), among others.

[4] For a detailed discussion on the role of financial integration, real activity and globalization, and the importance of sectors, see De Nicolò and Juvenal (2012).

in explaining stock market correlation). Serra (2000) draws an opposite conclusion. She finds that country effects are the most important factors driving the behavior of emerging markets' individual stock returns. In other words, emerging market indices are driven by country factors and cross-market correlation does not seem to be affected by the industrial composition of the indices. The same result of Serra is found by Ang et al. (2009). They present evidence that the negative relation between lagged idiosyncratic volatility and future average returns is observed across a broad sample of international developed markets. They find also that the negative spread in returns between stocks with high and low idiosyncratic volatility in international markets strongly co-moves with the difference in returns between U.S. stocks with high and low idiosyncratic volatilities. They conclude that there are not easily diversifiable factors behind this effect. Brooks and Del Negro (2002) claim that diversification across industries results to be more effective than diversification across countries. In contrast to our paper, they explore the implication of industry only in a regional framework. Similarly, Eiling et al. (2012) show that international returns are primarily driven by industry and currency risk factors in the G7 countries only. The key feature is the use of sector-based data.

# 3 International Excess Returns: Some Stylized Facts

This paper focuses on the performances of the listed industries across emerging markets. We download country-by-country and industry-by-industry TRIs from Datastream Global Equity Indices.[5] For each country, ten or less different industry TRIs are available. All indices are monthly total returns denominated in US dollars (i.e. dividends are included) and run from Jan 95 (or later) to Jun 12. The employed industries are: Oil & Gas, Basic Materials, Consumer Goods, Consumer Services, Industries, Health Care, Financials, Technology, Telecom and Utilities. Details are given in appendix B. The full set of industry-based TRIs is available only for eight emerging countries. We restrict the large part of the analysis on to these markets, i.e. Brazil, Cile, China, Malaysia, Israel, Singapore, Thailand, Turkey. We argue that these markets represent a reasonable set of stock markets in which an international investor focuses on. Among the G7 economies, we use the US one as benchmark. Stock returns are computed for country $k$ and industry $i$ as follows

$$Returns^{i}_{k,t+1} = \frac{GEI\ TRI^{i}_{k,t+1} - GEI\ TRI^{i}_{k,t}}{GEI\ TRI^{i}_{k,t}}. \tag{3.1}$$

We obtain the excess return by subtracting the free risk rate from 3.1. Eq. 3.2 defines the related excess returns:

$$Excess\ Return^{i}_{k,t+1} = Returns^{i}_{k,t+1} - R^{f}_{t} \tag{3.2}$$

where the risk free proxy is the one-month T-bill rate from the Fama&French (F&F) data library and $k$ denotes the stock market.

**Definition 1**: The industry $i$ excess return spread between the emerging country $k$ and the US economy is given by

$$Spread^{i}_{k,t+1} = Excess\ Return^{i}_{k,t+1} - Excess\ Return^{i}_{US,t+1}.$$

Summary statistics of 23 equity market excess returns are reported in Table B.1. For each country and for the sample Jan 95 (or later) - Jun 12, we compute the mean (first line), standard deviation (second line) and Sharpe ratio (third line). In the fourth line, we report the average spread (as by Def. 1) for each emerging stock market $k$. As expected, the industry based excess returns of emerging markets are higher than those generated by the US benchmark

[5] Datastream Global Equity Indices break down into six levels. Level 1 is the market index, this covers all the sectors in each region or country. Level 2 divides the market into 10 industries and covers all the sectors within each group in each region or country.

stock market. The average spread appears to be positive both across industries and countries (i.e. longitudinal and vertical averages of line four in Table B.1). We stress that, in some cases, negative numbers are heavily either sample or state dependent.

**Definition 2**: The country-by-country industrial average spread is given by

$$Country\ Avg\ Spread^k = \frac{1}{I}\sum_{i=1}^{I}\left\{\frac{1}{T}\sum_{t=1}^{T} Spread_t^k\right\}_i$$

where $i$ represents the industry and $k$ denotes the emerging country.

| Country | Average (All Industries) | Country | Average (All Industries) |
|---|---|---|---|
| ARGENTINA | -1.80 | PAKISTAN | 2.34 |
| BRAZIL | 9.83 | PERU | 11.62 |
| CHILE | 2.18 | PHIL | -1.49 |
| CHINA | 13.07 | POLAND | 3.95 |
| CZ REP | 5.96 | RUSSIA | 21.18 |
| HONG-KONG | 5.35 | SINGAPORE | 3.51 |
| HUNGARY | 0.85 | SOUTH AFRICA | 6.57 |
| INDIA | 5.89 | SRI LANKA | -14.90 |
| ISRAEL | 4.24 | TAIWAN | -0.47 |
| MALAYSIA | 3.04 | THAILAN | 3.19 |
| MEXICO | 6.00 | TURKEY | 20.07 |

Table 3.1: Country-by-Country Stock Markets' Average Spread. Averages - computed as is Definition 2 - are in annual terms and expressed in percentage points. Sample: Jan 95 (or later) - Jun 12.

Emerging markets industries' average spreads are illustrated in Table 3.1. In line with the most recent empirical findings on emerging stock markets' performances, our estimates suggest that emerging stocks perform much better than the US one. For the sample Jan 95 - Jun 12 the emerging countries' (industry-by-industry) average spread is negative only in 4 out of 22 stock markets. On annual basis, Argentina, Philippines, Sri Lanka and Taiwan show a spread equals to -1.80%, -1.49%, -14.90% and -0.47%, respectively. Instead the positive spread ranges from a minimum of 0.85% (Hungary) to a maximum of 21.80% (Russia). This high different country spread range suggests the opportunity to disentangle the industry-by-industry effect.

**Definition 3**: The industry-by-industry average spread is given by

$$Industry\ Avg\ Spread^i = \frac{1}{K}\sum_{k=1}^{K}\left\{\frac{1}{T}\sum_{t=1}^{T} Spread_t^i\right\}_k$$

where $i$ represent the industry and $k$ denotes the country.

Table 3.2 report the empirical counterparts of Def. 3 for two sets of emerging stock markets: a full set containing all the downloaded markets and a set composed by eight benchmark emerging economies. In both cases, we find that the average spread is positive across all industries. The highest spread is generated by the Health Care industry. In terms of average excess returns, over the last fifteen years and across emerging countries, the Health Care industry has dominated all the other industries, providing a substantial contribution to the extra premia paid by the emerging world. The result is obviously sample and state sensitive. Being largely accepted that average emerging excess returns have a consistent time-varying component, we conduct the industry-by-industry empirical analysis in a time-varying setup. Fig. 3.1 illustrates the dynamics of average industries excess returns, computed per unit of risk, for the following markets: USA, Brazil, Chile, China, Israel, Malaysia, Singapore, Thailand, Turkey. In all graphs the black dashed line represents the US industries. We observe similar Sharpe ratios' patterns, both across industries and countries. Emerging values are much more

volatile in all industries. Emerging economies show an unstable stock markets' structure. The generous compensation is evident. We find that the performance of the Health Care industry, corrected per unit of risk, still dominate all the others. A relevant contribution is also given by the Consumer Goods and Utility industries. On average, they carry 9.94% and 10.01%, respectively.

| Country | Averages 21 Emerging | Averages 8 Emerging |
|---|---|---|
| Oil & Gas | 5.12 | 4.73 |
| Basic Mats | 5.01 | 5.97 |
| Consumer Gds | 6.28 | 9.94 |
| Consumer Svs | 6.77 | 6.10 |
| Industrials | 2.69 | 3.25 |
| Health Care | 12.05 | 16.05 |
| Financials | 5.98 | 4.80 |
| Telecom | 5.63 | 5.85 |
| Technology | 5.37 | 7.22 |
| Utilities | 0.50 | 10.01 |

Table 3.2: Emerging Industries' Average Spread. Averages - computed as is Def. 3 - are annualized and expressed in percentage points. Sample: Jan 95 (or later) - Jun 12.

We enrich the analysis via the estimation of a standard one-factor asset pricing linear model. We focus on the standard formulation put forward by Lintner and Sharpe. In particular, as in Black, Jensen and Scholes (1972), we consider the following linear regression suggested by the CAPM

$$ExRet^k_{i,t} = \alpha^k_i + \beta^k_{i,mkt}(ExRet_{mkt,t}) + \epsilon_t \tag{3.3}$$

The first simple way to check if the CAPM holds is to run a test of significance on the intercept of this linear regression, proceeding asset by asset. We estimate the coefficients $\alpha^k_i$ and $\beta^k_{i,mkt}$ using standard econometric techniques in a rolling sample of 60 months.[6]

The sample period goes from Jan 95 (or later) to Jun 12 and the market excess return is from the F&F's data library. The estimated coefficient $\alpha^k_i$ is a value extensively employed in finance to evaluate the performance of asset and fund managers.[7]. It indicates whether or not on average the observed returns on an asset are larger (or smaller) than the value consistent with the CAPM.

**Definition 4**: The estimated $\hat{\alpha}$ average spread is given by

$$Alpha\ Avg\ Spread^{k^e}_i = \left(\frac{1}{W}\sum_{w=1}^{W}\hat{\alpha}^{USA}_{i,w}\right) - \left(\frac{1}{W}\sum_{w=1}^{W}\hat{\alpha}^{k^e}_{i,w}\right)$$

where $i$ represent the industry and $k^e$ denotes the emerging country, while $w$ define the window in which the intercept $\alpha$ is estimated.

[6]Straightforward econometric results suggest that if we estimate the coefficients $\alpha^k_i$ and $\beta^k_{i,mkt}$ using the OLS method, we find the following

$$\hat{\beta}^k_i = \frac{\hat{\sigma}^k_{i,mkt}}{\hat{\sigma}^2_{mkt}}, \quad \hat{\alpha}^k_i = \bar{z}^k_i - \hat{\beta}^k_i \bar{z}_{mkt}$$

where $\bar{z}^k_i$ and $\bar{z}_{mkt}$ are the sample means for the excess returns of "industry $i$ - country $k$" and the market portfolio, respectively, while $\hat{\sigma}^k_{i,mkt}$ is the sample covariance between the two returns and $\hat{\sigma}^2_{mkt}$ the sample variance of the market.

[7]See Jensen (1968).

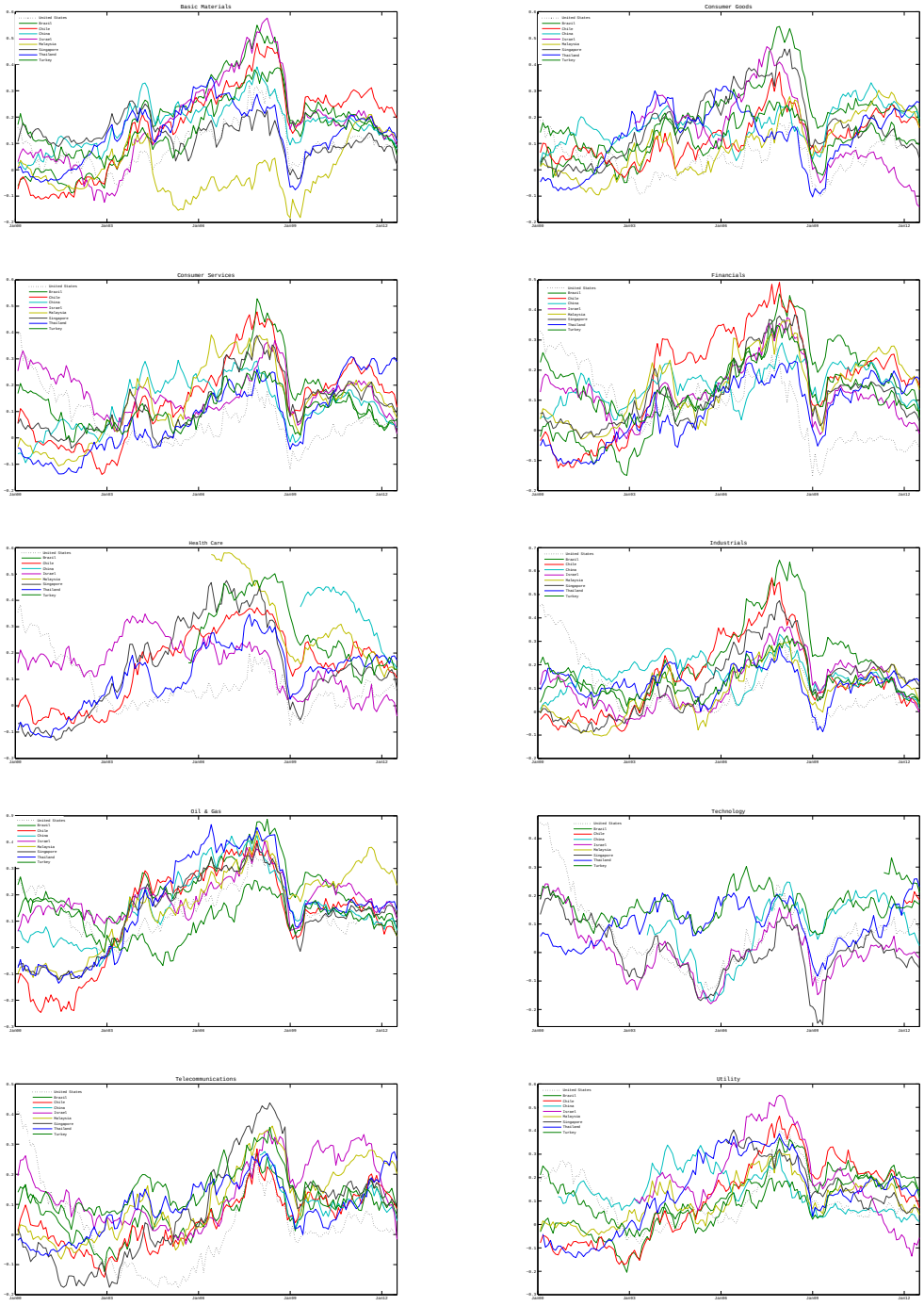


Figure 3.1: Industry-by-Industry Sharpe ratios. Sharpe ratios - computed as the ratio between the excess return and the standard deviation of each industry TRI - are estimated using a rolling sample of 60 months. Formally, $ShR = (Returns^{i}_{k,w} - R^{f}_{t})/(Sd^{i}_{k,w})$, where $w$ represents the window in which the ratio is estimated. The sample period goes from Jan 95 (or later) to Jun 06.

For each country, at industry level, Table 3.3 report the sample counterpart of Def. 4. We find that Brazil, China and Turkey deliver the highest rolling average Jensen's alpha spreads (i.e. 0.0152, 0.0174 and 0.0195, respectively). In China and Turkey, the Health Care industry displays the greatest indvidual performance. The Technology sector seems to dominate in Brazil, Chile and Turkey. Outstanding performances are achieved also by the Basic Materials and Consumer Goods industries in Brazil, China, Israel, Thailand and Turkey. The Utilities sector has the highest alpha in Singapore. The results are obviously sample sensitive. Our values confirm the performances presented in 3.1.

| | BRAZ | CHILE | CHINA | ISR | MAL | SING | THAI | TUR |
|---|---|---|---|---|---|---|---|---|
| Basic Materials | 0.0142 | 0.0061 | 0.0184 | 0.0102 | -0.0066 | 0.0106 | 0.0072 | 0.0183 |
| Cons. Goods | 0.0179 | 0.0057 | 0.0229 | 0.0123 | 0.0043 | 0.0130 | 0.0104 | 0.0168 |
| Cons. Services | 0.0199 | 0.0067 | 0.0104 | 0.0104 | 0.0042 | 0.0041 | 0.0015 | 0.0149 |
| Financials | 0.0113 | 0.0065 | 0.0142 | 0.0066 | 0.0065 | 0.0043 | -0.0002 | 0.0199 |
| Health Care | n/a | 0.0101 | 0.0536 | 0.0091 | 0.0259 | 0.0036 | 0.0044 | 0.0357 |
| Industrials | 0.0164 | 0.0035 | 0.0187 | 0.0040 | -0.0010 | 0.0020 | 0.0093 | 0.0163 |
| Oil & Gas | 0.0171 | 0.0008 | 0.0075 | 0.0085 | 0.0002 | 0.0045 | 0.0058 | 0.0073 |
| Technology | 0.0284 | 0.0138 | 0.0065 | -0.0037 | n/a | -0.0045 | 0.0075 | 0.0295 |
| Telecom | 0.0076 | 0.0034 | 0.0126 | 0.0105 | 0.0068 | 0.0043 | 0.0069 | 0.0257 |
| Utilities | 0.0045 | 0.0013 | 0.0089 | 0.0132 | 0.0000 | 0.0200 | 0.0035 | 0.0114 |
| | | | | | | | | |
| Avg | 0.0152 | 0.0058 | 0.0174 | 0.0081 | 0.0045 | 0.0062 | 0.0056 | 0.0196 |
| Min | 0.0045 | 0.0008 | 0.0065 | -0.0037 | -0.0066 | -0.0045 | -0.0002 | 0.0073 |
| Max | 0.0284 | 0.0138 | 0.0536 | 0.0132 | 0.0259 | 0.0200 | 0.0104 | 0.0357 |

Table 3.3: Industries' Average Rolling Alpha Spreads. The US stock market is used as benchmark. Intercepts of Eq. 2.3 are estimated via standard OLS using a rolling sample of 60 months. The sample goes from Jan 95 (or later) to Jun 12.

# 4 Cycles and Stock Markets Comovements

The effects of the global markets integration process on emerging stock returns have been widely discussed in literature.[8] In Fig. 4.1, we still find reasonable motivations to study such effects, in an updated and dynamic environment. The dynamics of the principal components confirm that emerging economies are becoming less segmented. We argue that the real and financial integration processes are strictly related. At industry level, such relationship, may lead to unexpected results, which might be beneficial for a well diversified and insured dynamic portfolio allocation.

In contrast to past empirical regularities, mainly based on country indexes, the joint analysis of Figs. 4.2 and C.1 suggests that some industries cannot be classified as "high-beta industries".[9] In few countries, these industries pay less than the market average excess returns. The result is dynamically consistent. Betas are found to be constantly less than one in the Financials and Utilities industry, mostly in Chile, Malaysia and Israel. At the beginning of the sample, all emerging betas, in all emerging economies, are less than one (and negative in few cases). Our empirical regularities are key, and provides practical implications. First, we argue that diversification opportunities should be exploited. Instead, country indexes tend to be much more exposed to global factors. Second, we find that some industries carry a small, but exploitable, insurace component.[10]

[8] See Bekaert (1995), Carrieri et al. (2007), Donadelli and Prosperi (2012a), among many others.

[9] See Salomons and Grootveld (2003).

[10] For a detailed discussion on consumption-based asset pricing model, see Mehra (2012).

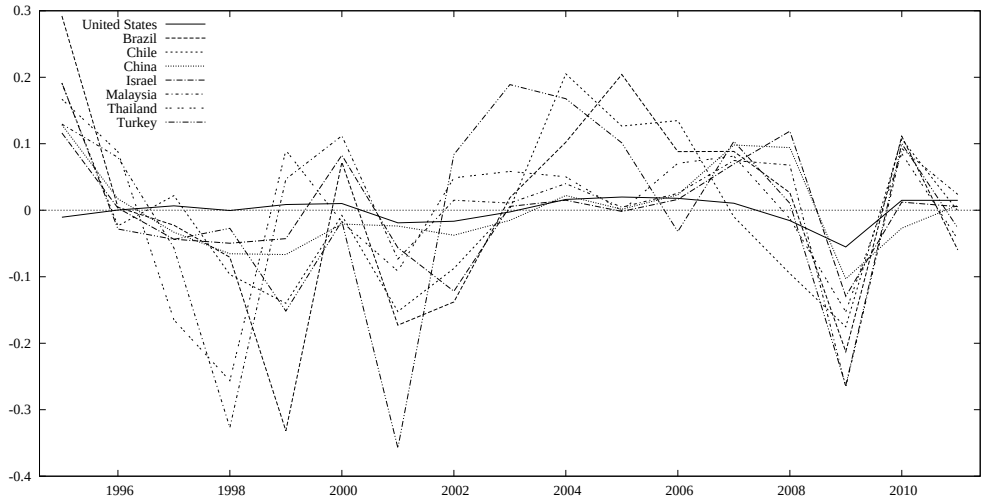


Figure 4.1: International Business Cycles. The cyclical components are extracted from the GDP annual time series (at current prices, US$) via the Hodrick-Prescott (1997) method. Data run from 1995 to 2011. Source: IMF

# 5 Conclusion

Over the last twenty years, and especially after liberalizations,[11] emerging stock markets have captured the attention of many scholars as well as of many practitioners. Emerging markets' empirical regularities are well known (e.g. high returns, high volatility, time-varying moments). We improve the existing literature by providing a pure time-varying industry-by-industry analysis. We obtain two main results. First, we show that some industries contribute more than others in determining the extra premia paid by emerging markets to international investors. Second, we find that some industries still incorporate diversification benefits as well as insurance properties.

[11] For a detailed discussion on equity market liberalizations, see Henry (2000) and Bekaert (1995).

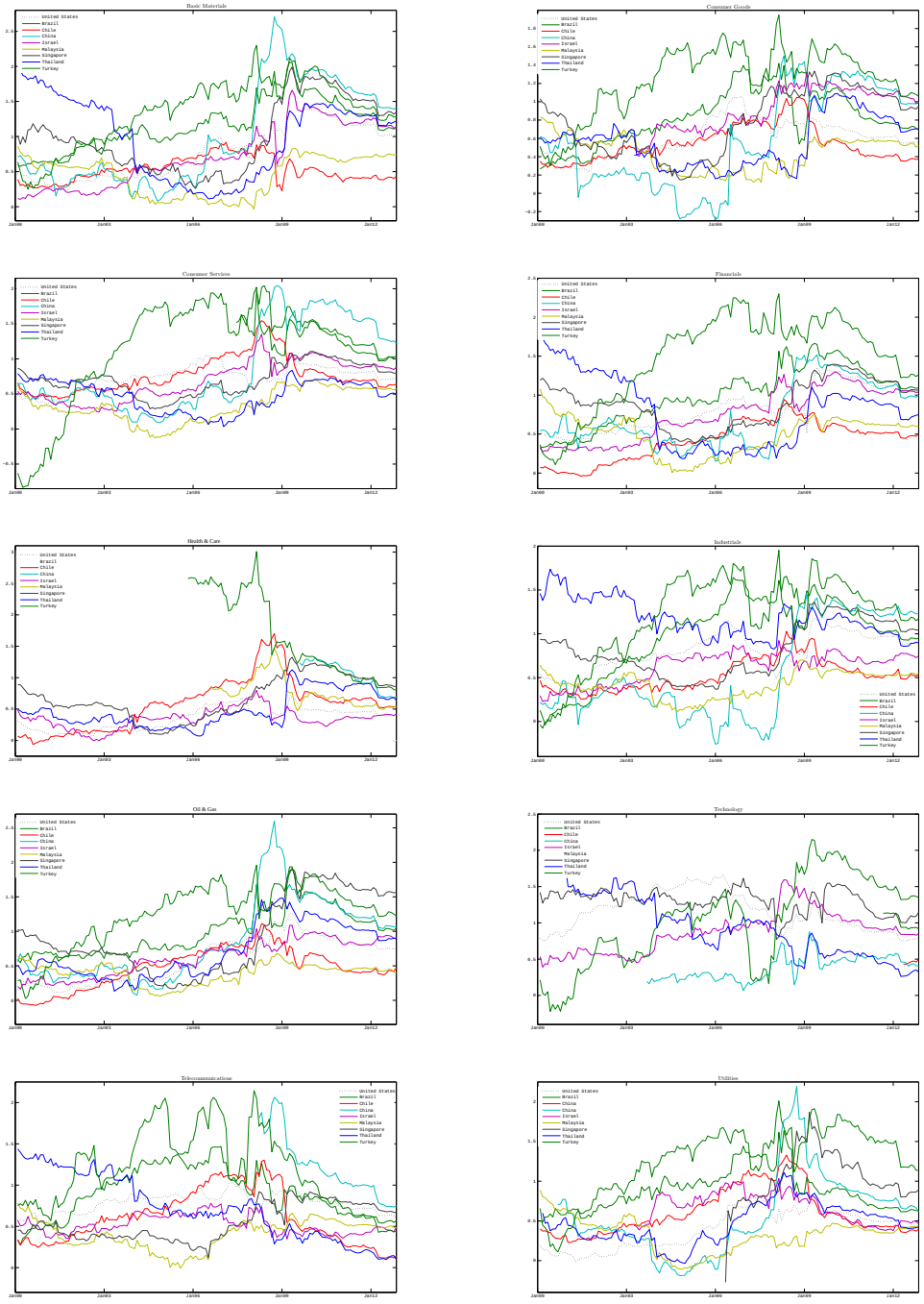


Figure 4.2: Industry-by-Industry Rolling Betas (One-Factor Model). Betas of Eq. 2.3 are estimated via standard OLS using a rolling sample of 60 months. Sample: Jan 95 (or later) - Jun 12.

# A Data Summary

| Name | Code | Period |
|---|---|---|
| US-DS Oil & Gas - TOT RETURN IND (∼U$) | OILGSUS(RI)∼U$ | Dec 94 - Jun 12 |
| US-DS Basic Mats - TOT RETURN IND (∼U$) | BMATRUS(RI)∼U$ | Dec 94 - Jun 12 |
| US-DS Consumer Gds - TOT RETURN IND(∼U$) | CNSMGUS(RI)∼U$ | Dec 94 - Jun 12 |
| US-DS Consumer Svs - TOT RETURN IND (∼U$) | CNSMSUS(RI)∼U$ | Dec 94 - Jun 12 |
| US-DS Industrials - TOT RETURN IND (∼U$) | INDUSUS(RI)∼U$ | Dec 94 - Jun 12 |
| US-DS Health Care - TOT RETURN IND (∼U$) | HLTHCUS(RI)∼U$ | Dec 94 - Jun 12 |
| US-DS Financials - TOT RETURN IND (∼U$) | FINANUS(RI)∼U$ | Dec 94 - Jun 12 |
| US-DS Telecom - TOT RETURN IND (∼U$) | TELCMUS(RI)∼U$ | Dec 94 - Jun 12 |
| US-DS Technology - TOT RETURN IND (∼U$) | TECNOUS(RI)∼U$ | Dec 94 - Jun 12 |
| US-DS Utilities - TOT RETURN IND (∼U$) | UTILSUS(RI)∼U$ | Dec 94 - Jun 12 |
| ARGENTINA-DS Oil & Gas - TOT RETURN IND (∼U$) | OILGSAR(RI)∼U$ | Dec 94 - Jun 12 |
| ARGENTINA-DS Basic Mats - TOT RETURN IND (∼U$) | BMATRAR(RI)∼U$ | Dec 94 - Jun 12 |
| ARGENTINA-DS Consumer Gds - TOT RETURN IND (∼U$) | CNSMGAR(RI)∼U$ | Dec 94 - Jun 12 |
| ARGENTINA-DS Consumer Svs - TOT RETURN IND (∼U$) | CNSMSAR(RI)∼U$ | Dec 94 - Jun 12 |
| ARGENTINA-DS Industrials - TOT RETURN IND (∼U$) | INDUSAR(RI)∼U$ | Dec 94 - Jun 12 |
| ARGENTINA-DS Financials - TOT RETURN IND (∼U$) | FINANAR(RI)∼U$ | Dec 94 - Jun 12 |
| ARGENTINA-DS Telecom - TOT RETURN IND (∼U$) | TELCMAR(RI) ∼U$ | Dec 94 - Jun 12 |
| ARGENTINA-DS Utilities - TOT RETURN IND (∼U$) | UTILSAR(RI)∼U$ | Dec 94 - Jun 12 |
| BRAZIL-DS Oil & Gas - TOT RETURN IND (∼U$) | OILGSBR(RI)∼U$ | Dec 94 - Jun 12 |
| BRAZIL-DS Basic Mats - TOT RETURN IND (∼U$) | BMATRBR(RI)∼U$ | Dec 94 - Jun 12 |
| BRAZIL-DS Consumer Gds - TOT RETURN IND (∼U$) | CNSMGBR(RI)∼U$ | Dec 94 - Jun 12 |
| BRAZIL-DS Consumer Svs - TOT RETURN IND (∼U$) | CNSMSBR(RI)∼U$ | Feb 02 - Jun 12 |
| BRAZIL-DS Industrials - TOT RETURN IND (∼U$) | INDUSBR(RI)∼U$ | Dec 94 - Jun 12 |
| BRAZIL-DS Health Care - TOT RETURN IND (∼U$) | HLTHCBR(RI)∼U$ | Nov 07 - Jun 12 |
| BRAZIL-DS Financials - TOT RETURN IND (∼U$) | FINANBR(RI)∼U$ | Dec 94 - Jun 12 |
| BRAZIL-DS Telecom - TOT RETURN IND (∼U$) | TELCMBR(RI)∼U$ | Dec 94 - Jun 12 |
| BRAZIL-DS Technology - TOT RETURN IND (∼U$) | TECNOBR(RI)∼U$ | Mar 06 - Jun 12 |
| BRAZIL-DS Utilities - TOT RETURN IND (∼U$) | UTILSBR(RI)∼U$ | Dec 94 - Jun 12 |
| CHILE-DS Oil & Gas - TOT RETURN IND (∼U$) | OILGSCL(RI)∼U$ | Dec 94 - Jun 12 |
| CHILE-DS Basic Mats - TOT RETURN IND ( ∼U$) | BMATRCL(RI)∼U$ | Dec 94 - Jun 12 |
| CHILE-DS Consumer Gds - TOT RETURN IND (∼U$) | CNSMGCL(RI)∼U$ | Dec 94 - Jun 12 |
| CHILE-DS Consumer Svs - TOT RETURN IND (∼U$) | CNSMSCL(RI)∼U$ | Dec 94 - Jun 12 |
| CHILE-DS Industrials - TOT RETURN IND (∼U$) | INDUSCL(RI)∼U$ | Dec 94 - Jun 12 |
| CHILE-DS Health Care - TOT RETURN IND (∼U$) | HLTHCCL(RI)∼U$ | Dec 94 - Jun 12 |
| CHILE-DS Financials - TOT RETURN IND (∼U$) | FINANCL(RI)∼U$ | Dec 94 - Jun 12 |
| CHILE-DS Telecom - TOT RETURN IND (∼U$) | TELCMCL(RI)∼U$ | Dec 94 - Jun 12 |
| CHILE-DS Technology - TOT RETURN IND (∼U$) | TECNOCL(RI)∼U$ | Dec 94 - Jun 12 |
| CHILE-DS Utilities - TOT RETURN IND (∼U$) | UTILSCL(RI)∼U$ | Dec 94 - Jun 12 |
| CHINA-DS Oil & Gas - TOT RETURN IND (∼U$) | OILGSCH(RI)∼U$ | Dec 94 - Jun 12 |
| CHINA-DS Basic Mats - TOT RETURN IND (∼U$) | BMATRCH(RI)∼U$ | Dec 94 - Jun 12 |
| CHINA-DS Consumer Gds - TOT RETURN IND (∼U$) | CNSMGCH(RI)∼U$ | Dec 94 - Jun 12 |
| CHINA-DS Consumer Svs - TOT RETURN IND (∼U$) | CNSMSCH(RI)∼U$ | Dec 94 - Jun 12 |
| CHINA-DS Industrials - TOT RETURN IND (∼U$) | INDUSCH(RI)∼U$ | Dec 94 - Jun 12 |
| CHINA-DS Health Care - TOT RETURN IND (∼U$) | HLTHCCH(RI)∼U$ | Mar 04 - Jun 12 |
| CHINA-DS Financials - TOT RETURN IND (∼U$) | FINANCH(RI)∼U$ | Dec 94 - Jun 12 |
| CHINA-DS Telecom - TOT RETURN IND (∼U$) | TELCMCH(RI)∼U$ | Nov 02 - Jun 12 |
| CHINA A-DS Technology - TOT RETURN IND (∼U$) | TECNOCA(RI)∼U$ | Jun 98 - Jun 12 |
| CHINA-DS Utilities - TOT RETURN IND (∼U$) | UTILSCH(RI)∼U$ | Jul 95 - Jun 12 |
| COLOMBIA-DS Oil & Gas - TOT RETURN IND (∼U$) | OILGSCB(RI)∼U$ | Dec 94 - Jun 12 |
| COLOMBIA-DS Basic Mats - TOT RETURN IND (∼U$) | BMATRCB(RI)∼U$ | Dec 94 - Jun 12 |
| COLOMBIA-DS Consumer Gds - TOT RETURN IND (∼U$) | CNSMGCB(RI)∼U$ | Dec 94 - Jun 12 |
| COLOMBIA-DS Consumer Svs - TOT RETURN IND (∼U$) | CNSMSCB(RI)∼U$ | Dec 94 - Jun 12 |
| COLOMBIA-DS Industrials - TOT RETURN IND (∼U$) | INDUSCB(RI)∼U$ | Jan 98 - Jun 12 |
| COLOMBIA-DS Financials - TOT RETURN IND (∼U$) | FINANCB(RI)∼U$ | Dec 94 - Jun 12 |
| COLOMBIA-DS Telecom - TOT RETURN IND (∼U$) | TELCMCB(RI)∼U$ | Oct 03 - Jun 12 |
| COLOMBIA-DS Utilities - TOT RETURN IND (∼U$) | UTILSCB(RI)∼U$ | Dec 94 - Jun 12 |
| CZECH REP.-DS Oil & Gas - TOT RETURN IND (∼U$) | OILGSCZ(RI)∼U$ | Dec 94 - Jun 12 |
| CZECH REP.-DS Basic Mats - TOT RETURN IND (∼U$) | BMATRCZ(RI)∼U$ | Dec 94 - Jun 12 |
| CZECH REP.-DS Consumer Gds - TOT RETURN IND (∼U$) | CNSMGCZ(RI)∼U$ | Dec 94 - Jun 12 |
| CZECH REP.-DS Consumer Svs - TOT RETURN IND (∼U$) | CNSMSCZ(RI)∼U$ | Mar 95 - Jun 12 |
| CZECH REP.-DS Industrials - TOT RETURN IND (∼U$) | INDUSCZ(RI)∼U$ | Dec 94 - Jun 12 |
| CZECH REP.-DS Financials - TOT RETURN IND (∼U$) | FINANCZ(RI)∼U$ | Dec 94 - Jun 12 |
| CZECH REP.-DS Telecom - TOT RETURN IND (∼U$) | TELCMCZ(RI)∼U$ | Mar 95 - Jun 12 |
| CZECH REP.-DS Utilities - TOT RETURN IND (∼U$) | UTILSCZ(RI)∼U$ | Dec 94 - Jun 12 |
| HONG KONG-DS Oil & Gas - TOT RETURN IND (∼U$) | OILGSHK(RI)∼U$ | Dec 94 - Jun 12 |
| HONG KONG-DS Basic Mats - TOT RETURN IND (∼U$) | BMATRHK(RI)∼U$ | Dec 94 - Jun 12 |
| HONG KONG-DS Consumer Gds - TOT RETURN IND (∼U$) | CNSMGHK(RI)∼U$ | Dec 94 - Jun 12 |
| HONG KONG-DS Consumer Svs - TOT RETURN IND (∼U$) | CNSMSHK(RI)∼U$ | Dec 94 - Jun 12 |
| HONG KONG-DS Industrials - TOT RETURN IND (∼U$) | INDUSHK(RI)∼U$ | Dec 94 - Jun 12 |
| HONG KONG-DS Financials - TOT RETURN IND (∼U$) | FINANHK(RI)∼U$ | Dec 94 - Jun 12 |
| HONG KONG-DS Telecom - TOT RETURN IND (∼U$) | TELCMHK(RI)∼U$ | Dec 94 - Jun 12 |
| HONG KONG-DS Technology - TOT RETURN IND (∼U$) | TECNOHK(RI)∼U$ | Dec 94 - Jun 12 |
| HONG KONG-DS Utilities - TOT RETURN IND (∼U$) | UTILSHK(RI)∼U$ | Dec 94 - Jun 12 |
| HUNGARY-DS Oil & Gas - TOT RETURN IND (∼U$) | OILGSHN(RI)∼U$ | Dec 95 - Jun 12 |
| HUNGARY-DS Basic Mats - TOT RETURN IND (∼U$) | BMATRHN(RI)∼U$ | Dec 94 - Jun 12 |
| HUNGARY-DS Consumer Gds - TOT RETURN IND (∼U$) | CNSMGHN(RI)∼U$ | Dec 94 - Jun 12 |
| HUNGARY-DS Industrials - TOT RETURN IND (∼U$) | INDUSHN(RI)∼U$ | May 97 - Jun 12 |
| HUNGARY-DS Health Care - TOT RETURN IND (∼U$) | HLTHCHN(RI)∼U$ | Dec 94 - Jun 12 |
| HUNGARY-DS Financials - TOT RETURN IND (∼U$) | FINANHN(RI)∼U$ | Dec 94 - Jun 12 |
| HUNGARY-DS Telecom - TOT RETURN IND (∼U$) | TELCMHN(RI)∼U$ | Nov 97 - Jun 12 |
| HUNGARY-DS Technology - TOT RETURN IND (∼U$) | TECNOHN(RI)∼U$ | May 99 - Jun 12 |
| HUNGARY-DS Utilities - TOT RETURN IND (∼U$) | UTILSHN(RI)∼U$ | Dec 94 - Jun 12 |
| INDIA-DS Oil & Gas - TOT RETURN IND (∼U$) | OILGSIN(RI)∼U$ | Dec 94 - Jun 12 |
| INDIA-DS Basic Mats - TOT RETURN IND (∼U$) | BMATRIN(RI)∼U$ | Dec 94 - Jun 12 |
| INDIA-DS Consumer Gds - TOT RETURN IND (∼U$) | CNSMGIN(RI)∼U$ | Dec 94 - Jun 12 |
| INDIA-DS Industrials - TOT RETURN IND (∼U$) | INDUSIN(RI)∼U$ | Dec 94 - Jun 12 |
| INDIA-DS Health Care - TOT RETURN IND (∼U$) | HLTHCIN(RI)∼U$ | Dec 94 - Jun 12 |
| INDIA-DS Financials - TOT RETURN IND (∼U$) | FINANIN(RI)∼U$ | Dec 94 - Jun 12 |
| INDIA-DS Telecom - TOT RETURN IND (∼U$) | TELCMIN(RI)∼U$ | Dec 94 - Jun 12 |
| INDIA-DS Technology - TOT RETURN IND (∼U$) | TECNOIN(RI)∼U$ | Dec 94 - Jun 12 |
| INDIA-DS Utilities - TOT RETURN IND (∼U$) | UTILSIN(RI)∼U$ | Dec 94 - Jun 12 |
| ISRAEL-DS Basic Mats - TOT RETURN IND (∼U$) | BMATRIS(RI)∼U$ | Dec 94 - Jun 12 |
| ISRAEL-DS Consumer Gds - TOT RETURN IND (∼U$) | CNSMGIS(RI)∼U$ | Jan 98 - Jun 12 |
| ISRAEL-DS Consumer Svs - TOT RETURN IND (∼U$) | CNSMSIS(RI)∼U$ | Jan 98 - Jun 12 |
| ISRAEL-DS Industrials - TOT RETURN IND (∼U$) | INDUSIS(RI)∼U$ | Dec 94 - Jun 12 |
| ISRAEL-DS Health Care - TOT RETURN IND (∼U$) | HLTHCIS(RI)∼U$ | Dec 94 - Jun 12 |
| ISRAEL-DS Financials - TOT RETURN IND (∼U$) | FINANIS(RI)∼U$ | Dec 94 - Jun 12 |
| ISRAEL-DS Telecom - TOT RETURN IND (∼U$) | TELCMIS(RI)∼U$ | Dec 94 - Jun 12 |
| ISRAEL-DS Technology - TOT RETURN IND (∼U$) | TECNOIS(RI)∼U$ | Dec 94 - Jun 12 |
| ISRAEL-DS Utilities - TOT RETURN IND (∼U$) | UTILSIS(RI)∼U$ | Jan 98 - Jun 12 |

| | | |
|---|---|---|
| MALAYSIA-DS Oil & Gas - TOT RETURN IND (∼U$) | OILGSMY(RI)∼U$ | Dec 94 - Jun 12 |
| MALAYSIA-DS Basic Mats - TOT RETURN IND (∼U$) | BMATRMY(RI)∼U$ | Dec 94 - Jun 12 |
| MALAYSIA-DS Consumer Gds - TOT RETURN IND (∼U$) | CNSMGMY(RI)∼U$ | Dec 94 - Jun 12 |
| MALAYSIA-DS Consumer Svs - TOT RETURN IND (∼U$) | CNSMSMY(RI)∼U$ | Dec 94 - Jun 12 |
| MALAYSIA-DS Industrials - TOT RETURN IND (∼U$) | INDUSMY(RI)∼U$ | Dec 94 - Jun 12 |
| MALAYSIA-DS Health Care - TOT RETURN IND (∼U$) | HLTHCMY(RI)∼U$ | Avr 01 - Jun 12 |
| MALAYSIA-DS Financials - TOT RETURN IND (∼U$) | FINANMY(RI)∼U$ | Dec 94 - Jun 12 |
| MALAYSIA-DS Telecom - TOT RETURN IND (∼U$) | TELCMMY(RI)∼U$ | Dec 94 - Jun 12 |
| MALAYSIA-DS Technology - TOT RETURN IND (∼U$) | TECNOMY(RI)∼U$ | Mar 10 - Jun 12 |
| MALAYSIA-DS Utilities - TOT RETURN IND (∼U$) | UTILSMY(RI)∼U$ | Dec 94 - Jun 12 |
| MEXICO-DS Basic Mats - TOT RETURN IND (∼U$) | BMATRMX(RI)∼U$ | Dec 94 - Jun 12 |
| MEXICO-DS Consumer Gds - TOT RETURN IND (∼U$) | CNSMGMX(RI)∼U$ | Dec 94 - Jun 12 |
| MEXICO-DS Consumer Svs - TOT RETURN IND (∼U$) | CNSMSMX(RI)∼U$ | Dec 94 - Jun 12 |
| MEXICO-DS Industrials - TOT RETURN IND (∼U$) | INDUSMX(RI)∼U$ | Dec 94 - Jun 12 |
| MEXICO-DS Health Care - TOT RETURN IND (∼U$) | HLTHCMX(RI)∼U$ | Jul 98 - Jun 12 |
| MEXICO-DS Financials - TOT RETURN IND (∼U$) | FINANMX(RI)∼U$ | Dec 94 - Jun 12 |
| MEXICO-DS Telecom - TOT RETURN IND (∼U$) | TELCMMX(RI)∼U$ | Dec 94 - Jun 12 |
| PAKISTAN-DS Oil & Gas - TOT RETURN IND (∼U$) | OILGSPK(RI)∼U$ | Dec 94 - Jun 12 |
| PAKISTAN-DS Basic Mats - TOT RETURN IND (∼U$) | BMATRPK(RI)∼U$ | Dec 94 - Jun 12 |
| PAKISTAN-DS Consumer Gds - TOT RETURN IND (∼U$) | CNSMGPK(RI)∼U$ | Dec 94 - Jun 12 |
| PAKISTAN-DS Consumer Svs - TOT RETURN IND (∼U$) | CNSMSPK(RI)∼U$ | Dec 94 - Jun 12 |
| PAKISTAN-DS Industrials - TOT RETURN IND (∼U$) | INDUSPK(RI)∼U$ | Dec 94 - Jun 12 |
| PAKISTAN-DS Health Care - TOT RETURN IND (∼U$) | HLTHCPK(RI)∼U$ | Dec 94 - Jun 12 |
| PAKISTAN-DS Financials - TOT RETURN IND (∼U$) | FINANPK(RI)∼U$ | Dec 94 - Jun 12 |
| PAKISTAN-DS Telecom - TOT RETURN IND (∼U$) | TELCMPK(RI)∼U$ | Dec 94 - Jun 12 |
| PAKISTAN-DS Utilities - TOT RETURN IND (∼U$) | UTILSPK(RI)∼U$ | Dec 94 - Jun 12 |
| PERU-DS Oil & Gas - TOT RETURN IND (∼U$) | OILGSPE(RI)∼U$ | Avr 04 - Jun 12 |
| PERU-DS Basic Mats - TOT RETURN IND (∼U$) | BMATRPE(RI)∼U$ | Dec 94 - Jun 12 |
| PERU-DS Consumer Gds - TOT RETURN IND (∼U$) | CNSMGPE(RI)∼U$ | Dec 94 - Jun 12 |
| PERU-DS Consumer Svs - TOT RETURN IND (∼U$) | CNSMSPE(RI)∼U$ | Jan 01 - Jun 12 |
| PERU-DS Industrials - TOT RETURN IND (∼U$) | INDUSPE(RI)∼U$ | Dec 94 - Jun 12 |
| PERU-DS Financials - TOT RETURN IND (∼U$) | FINANPE(RI)∼U$ | Dec 99 - Jun 12 |
| PERU-DS Telecom - TOT RETURN IND (∼U$) | TELCMPE(RI)∼U$ | Dec 94 - Jun 12 |
| PERU-DS Utilities - TOT RETURN IND (∼U$) | UTILSPE(RI)∼U$ | Aug 96 - Jun 12 |
| PHILIPPINE-DS Oil & Gas - TOT RETURN IND (∼U$) | OILGSPH(RI)∼U$ | Dec 94 - Jun 12 |
| PHILIPPINE-DS Basic Mats - TOT RETURN IND (∼U$) | BMATRPH(RI)∼U$ | Dec 94 - Jun 12 |
| PHILIPPINE-DS Consumer Gds - TOT RETURN IND (∼U$) | CNSMGPH(RI) U$ | Dec 94 - Jun 12 |
| PHILIPPINE-DS Consumer Svs - TOT RETURN IND (∼U$) | CNSMSPH(RI)∼U$ | Dec 94 - Jun 12 |
| PHILIPPINE-DS Industrials - TOT RETURN IND (∼U$) | INDUSPH(RI)∼U$ | Dec 94 - Jun 12 |
| PHILIPPINE-DS Financials - TOT RETURN IND (∼U$) | FINANPH(RI)∼U$ | Dec 94 - Jun 12 |
| PHILIPPINE-DS Telecom - TOT RETURN IND (∼U$) | TELCMPH(RI)∼U$ | Dec 94 - Jun 12 |
| PHILIPPINE-DS Utilities - TOT RETURN IND (∼U$) | UTILSPH(RI)∼U$ | Dec 94 - Jun 12 |
| POLAND-DS Oil & Gas - TOT RETURN IND (∼U$) | OILGSPO(RI)∼U$ | Feb 06 - Jun 12 |
| POLAND-DS Basic Mats - TOT RETURN IND (∼U$) | BMATRPO(RI)∼U$ | Dec 94 - Jun 12 |
| POLAND-DS Consumer Gds - TOT RETURN IND (∼U$) | CNSMGPO(RI)∼U$ | Jul 96 - Jun 12 |
| POLAND-DS Consumer Svs - TOT RETURN IND (∼U$) | CNSMSPO(RI)∼U$ | Nov 95 - Jun 12 |
| POLAND-DS Industrials - TOT RETURN IND (∼U$) | INDUSPO(RI)∼U$ | Sep 96 - Jun 12 |
| POLAND-DS Financials - TOT RETURN IND (∼U$) | FINANPO(RI)∼U$ | Dec 94 - Jun 12 |
| POLAND-DS Telecom - TOT RETURN IND (∼U$) | TELCMPO(RI)∼U$ | Nov 98 Jun 12 |
| POLAND-DS Technology - TOT RETURN IND (∼U$) | TECNOPO(RI)∼U$ | Feb 98 - Jun 12 |
| POLAND-DS Utilities - TOT RETURN IND (∼U$) | UTILSPO(RI)∼U$ | Nov 00 - Jun 12 |
| RUSSIA-DS Oil & Gas - TOT RETURN IND (∼U$) | OILGSRS(RI)∼U$ | Feb 98 - Jun 12 |
| RUSSIA-DS Basic Mats - TOT RETURN IND (∼U$) | BMATRRS(RI)∼U$ | Nov 01 - Jun 12 |
| RUSSIA-DS Consumer Gds - TOT RETURN IND (∼U$) | CNSMGRS(RI)∼U$ | Jan 03 - Jun 12 |
| RUSSIA-DS Consumer Svs - TOT RETURN IND (∼U$) | CNSMSRS(RI)∼U$ | Avr 99 - Jun 12 |
| RUSSIA-DS Industrials - TOT RETURN IND (∼U$) | INDUSRS(RI)∼U$ | Feb 05 - Jun 12 |
| RUSSIA-DS Health Care - TOT RETURN IND (∼U$) | HLTHCRS(RI)∼U$ | Sep 07 - Jun 12 |
| RUSSIA-DS Financials - TOT RETURN IND (∼U$) | FINANRS(RI)∼U$ | Avr 98 - Jun 12 |
| RUSSIA-DS Telecom - TOT RETURN IND (∼U$) | TELCMRS(RI)∼U$ | Feb 98 - Jun 12 |
| RUSSIA-DS Utilities - TOT RETURN IND (∼U$) | UTILSRS(RI)∼U$ | Feb 98 - Jun 13 |
| SINGAPORE-DS Oil & Gas - TOT RETURN IND (∼U$) | OILGSSG(RI)∼U$ | Dec 94 - Jun 12 |
| SINGAPORE-DS Basic Mats - TOT RETURN IND (∼U$) | BMATRSG(RI)∼U$ | Dec 94 - Jun 12 |
| SINGAPORE-DS Consumer Gds - TOT RETURN IND (∼U$) | CNSMGSG(RI)∼U$ | Dec 94 - Jun 12 |
| SINGAPORE-DS Consumer Svs - TOT RETURN IND (∼U$) | CNSMSSG(RI)∼U$ | Dec 94 - Jun 12 |
| SINGAPORE-DS Industrials - TOT RETURN IND (∼U$) | INDUSSG(RI)∼U$ | Dec 94 - Jun 12 |
| SINGAPORE-DS Health Care - TOT RETURN IND (∼U$) | HLTHCSG(RI)∼U$ | Dec 94 - Jun 12 |
| SINGAPORE-DS Financials - TOT RETURN IND (∼U$) | FINANSG(RI)∼U$ | Dec 94 - Jun 12 |
| SINGAPORE-DS Telecom - TOT RETURN IND (∼U$) | TELCMSG(RI)∼U$ | Dec 94 - Jun 12 |
| SINGAPORE-DS Technology - TOT RETURN IND (∼U$) | TECNOSG(RI)∼U$ | Dec 94 - Jun 12 |
| SINGAPORE-DS Utilities - TOT RETURN IND (∼U$) | UTILSSG(RI)∼U$ | Jan 01 - Jun 12 |
| SOUTH AFRI-DS Oil & Gas - TOT RETURN IND (∼U$) | OILGSSA(RI)∼U$ | Dec 94 - Jun 12 |
| SOUTH AFRI-DS Basic Mats - TOT RETURN IND (∼U$) | BMATRSA(RI)∼U$ | Dec 94 - Jun 12 |
| SOUTH AFRI-DS Consumer Gds - TOT RETURN IND (∼U$) | CNSMGSA(RI)∼U$ | Dec 94 - Jun 12 |
| SOUTH AFRI-DS Consumer Svs - TOT RETURN IND (∼U$) | CNSMSSA(RI)∼U$ | Dec 94 - Jun 12 |
| SOUTH AFRI-DS Industrials - TOT RETURN IND (∼U$) | INDUSSA(RI)∼U$ | Dec 94 - Jun 12 |
| SOUTH AFRI-DS Health Care - TOT RETURN IND (∼U$) | HLTHCSA(RI)∼U$ | Dec 94 - Jun 12 |
| SOUTH AFRI-DS Financials - TOT RETURN IND (∼U$) | FINANSA(RI)∼U$ | Dec 94 - Jun 12 |
| SOUTH AFRI-DS Telecom - TOT RETURN IND (∼U$) | TELCMSA(RI)∼U$ | Jan 96 - Jun 12 |
| SRI LANKA-DS Oil & Gas - TOT RETURN IND (∼U$) | OILGSCY(RI)∼U$ | Nov 96 - Jun 12 |
| SRI LANKA-DS Consumer Gds - TOT RETURN IND (∼U$) | CNSMGCY(RI)∼U$ | Dec 94 - Jun 12 |
| SRI LANKA-DS Consumer Svs - TOT RETURN IND (∼U$) | CNSMSCY(RI)∼U$ | Dec 94 - Jun 12 |
| SRI LANKA-DS Industrials - TOT RETURN IND (∼U$) | INDUSCY(RI)∼U$ | Dec 94 - Jun 12 |
| SRI LANKA-DS Financials - TOT RETURN IND (∼U$) | FINANCY(RI)∼U$ | Dec 94 - Jun 12 |
| SRI LANKA-DS Telecom - TOT RETURN IND (∼U$) | TELCMCY(RI)∼U$ | Jan 03 - Jun 12 |
| SRI LANKA-DS Technology - TOT RETURN IND (∼U$) | TECNOCY(RI)∼U$ | Jul 11 - Jun 12 |
| TAIWAN-DS Oil & Gas - TOT RETURN IND (∼U$) | OILGSTA(RI)∼U$ | Jan 04 - Jun 12 |
| TAIWAN-DS Basic Mats - TOT RETURN IND (∼U$) | BMATRTA(RI)∼U$ | Dec 94 - Jun 12 |
| TAIWAN-DS Consumer Gds - TOT RETURN IND (∼U$) | CNSMGTA(RI)∼U$ | Dec 94 - Jun 12 |
| TAIWAN-DS Consumer Svs - TOT RETURN IND (∼U$) | CNSMSTA(RI)∼U$ | Dec 94 - Jun 12 |
| TAIWAN-DS Industrials - TOT RETURN IND (∼U$) | INDUSTA(RI)∼U$ | Dec 94 - Jun 12 |
| TAIWAN-DS Financials - TOT RETURN IND (∼U$) | FINANTA(RI)∼U$ | Dec 94 - Jun 12 |
| TAIWAN-DS Telecom - TOT RETURN IND (∼U$) | TELCMTA(RI)∼U$ | Sep 00 - Jun 12 |
| TAIWAN-DS Technology - TOT RETURN IND (∼U$) | TECNOTA(RI)∼U$ | Mar 96 - Jun 12 |
| THAILAND-DS Basic Mats - TOT RETURN IND (∼U$) | BMATRTH(RI)∼U$ | Dec 94 - Jun 12 |
| THAILAND-DS Consumer Gds - TOT RETURN IND (∼U$) | CNSMGTH(RI)∼U$ | Dec 94 - Jun 12 |
| THAILAND-DS Consumer Svs - TOT RETURN IND (∼U$) | CNSMSTH(RI)∼U$ | Dec 94 - Jun 12 |
| THAILAND-DS Industrials - TOT RETURN IND (∼U$) | INDUSTH(RI)∼U$ | Dec 94 - Jun 12 |
| THAILAND-DS Health Care - TOT RETURN IND (∼U$) | HLTHCTH(RI)∼U$ | Dec 94 - Jun 12 |
| THAILAND-DS Financials - TOT RETURN IND (∼U$) | FINANTH(RI)∼U$ | Dec 94 - Jun 12 |
| THAILAND-DS Telecom - TOT RETURN IND (∼U$) | TELCMTH(RI)∼U$ | Dec 94 - Jun 12 |
| THAILAND-DS Technology - TOT RETURN IND (∼U$) | TECNOTH(RI)∼U$ | Dec 94 - Jun 12 |
| THAILAND-DS Utilities - TOT RETURN IND (∼U$) | UTILSTH(RI)∼U$ | Jan 95 - Jun 12 |
| TURKEY-DS Oil & Gas - TOT RETURN IND (∼U$) | OILGSTK(RI)∼U$ | Dec 94 - Jun 12 |
| TURKEY-DS Basic Mats - TOT RETURN IND (∼U$) | BMATRTK(RI)∼U$ | Dec 94 - Jun 12 |
| TURKEY-DS Consumer Gds - TOT RETURN IND (∼U$) | CNSMGTK(RI)∼U$ | Dec 94 - Jun 12 |
| TURKEY-DS Consumer Svs - TOT RETURN IND (∼U$) | CNSMSTK(RI)∼U$ | Dec 94 - Jun 12 |

| | | |
|---|---|---|
| TURKEY-DS Industrials - TOT RETURN IND (∼U$) | INDUSTK(RI)∼U$ | Dec 94 - Jun 12 |
| TURKEY-DS Health Care - TOT RETURN IND (∼U$) | HLTHCTK(RI)∼U$ | Jul 00 - Jun 12 |
| TURKEY-DS Financials - TOT RETURN IND (∼U$) | FINANTK(RI)∼U$ | Dec 94 - Jun 12 |
| TURKEY-DS Telecom - TOT RETURN IND (∼U$) | TELCMTK(RI)∼U$ | Dec 94 - Jun 12 |
| TURKEY-DS Technology - TOT RETURN IND ( ∼U$) | TECNOTK(RI)∼U$ | Dec 94 - Jun 12 |

Table A.1: Data Summary: Global Equity Datastream Indices

# B Empirical Results

| Country | Oil & Gas | Basic Mats | Cons. Gds | Cons. Svs | Indus. | Health Care | Financ. | Telecom. | Tech. | Util. |
|---|---|---|---|---|---|---|---|---|---|---|
| USA | 0.92 | 0.76 | 0.50 | 0.64 | 0.81 | 0.66 | 0.64 | 0.40 | 0.94 | 0.55 |
| | 6.30 | 7.61 | 5.66 | 5.87 | 6.42 | 4.70 | 7.03 | 6.26 | 8.45 | 4.82 |
| | 14.64 | 9.96 | 8.78 | 10.92 | 12.57 | 14.14 | 9.05 | 6.38 | 11.07 | 11.47 |
| ARGENTINA | 0.42 | 0.96 | 0.06 | 0.96 | 0.77 | n/a | 0.54 | 0.41 | n/a | -0.11 |
| | 12.85 | 12.13 | 15.12 | 12.41 | 12.37 | n/a | 13.00 | 13.47 | n/a | 10.91 |
| | 3.23 | 7.96 | 0.37 | 7.75 | 6.20 | n/a | 4.16 | 3.07 | n/a | -0.98 |
| | -0.51 | 0.21 | -0.44 | 0.32 | -0.04 | n/a | -0.10 | 0.01 | n/a | -0.66 |
| BRAZIL | 1.87 | 1.27 | 1.69 | 2.12 | 1.46 | 0.92 | 1.08 | 0.82 | 2.95 | 0.83 |
| | 12.82 | 11.91 | 10.24 | 12.82 | 10.69 | 13.77 | 10.64 | 11.43 | 11.89 | 11.80 |
| | 14.57 | 10.62 | 16.46 | 16.52 | 13.68 | 6.71 | 10.13 | 7.15 | 24.84 | 7.04 |
| | 0.94 | 0.51 | 1.19 | 1.48 | 0.66 | 0.26 | 0.44 | 0.42 | 2.02 | 0.28 |
| CHILE | 0.69 | 0.95 | 0.74 | 1.14 | 0.51 | 1.20 | 0.76 | 0.50 | 1.69 | 0.45 |
| | 7.59 | 8.03 | 7.15 | 8.35 | 8.11 | 9.54 | 6.12 | 8.74 | 8.66 | 6.91 |
| | 9.15 | 11.81 | 10.35 | 13.65 | 6.23 | 12.53 | 12.45 | 5.72 | 19.57 | 6.51 |
| | -0.23 | 0.19 | 0.24 | 0.50 | -0.30 | 0.53 | 0.13 | 0.10 | 0.76 | -0.10 |
| CHINA | 1.55 | 1.84 | 2.16 | 0.87 | 1.52 | 4.78 | 1.40 | 1.32 | 0.88 | 1.39 |
| | 13.57 | 15.21 | 14.84 | 13.09 | 14.33 | 14.36 | 11.89 | 10.45 | 10.34 | 10.88 |
| | 11.42 | 12.09 | 14.55 | 6.64 | 10.58 | 33.29 | 11.81 | 12.64 | 8.50 | 12.75 |
| | 0.63 | 1.08 | 1.66 | 0.23 | 0.71 | 4.12 | 0.77 | 0.92 | -0.06 | 0.83 |
| CZ REP | 1.47 | 0.58 | 0.79 | 1.44 | 1.00 | n/a | 1.53 | 0.98 | n/a | 1.41 |
| | 1.46 | 0.58 | 0.75 | 1.44 | 0.95 | n/a | 1.54 | 0.98 | n/a | 1.41 |
| | 1.50 | 0.62 | 0.76 | 1.44 | 0.97 | n/a | 1.59 | 0.98 | n/a | 1.45 |
| | 0.55 | -0.18 | 0.29 | 0.80 | 0.19 | n/a | 0.89 | 0.58 | n/a | 0.85 |
| HONG-KONG | 3.09 | 0.50 | 1.17 | 0.45 | 0.72 | n/a | 0.74 | 0.92 | 1.83 | 0.74 |
| | 20.55 | 10.58 | 8.12 | 7.84 | 8.68 | n/a | 8.36 | 9.51 | 14.35 | 4.33 |
| | 15.05 | 4.72 | 14.44 | 5.69 | 8.29 | n/a | 8.82 | 9.63 | 12.77 | 17.11 |
| | 2.17 | -0.26 | 0.68 | -0.19 | -0.09 | n/a | 0.10 | 0.52 | 0.90 | 0.19 |
| HUNGARY | 1.81 | 0.95 | 0.62 | n/a | -0.46 | 1.31 | 2.19 | 0.50 | -0.72 | 0.59 |
| | 12.75 | 11.66 | 10.55 | n/a | 11.15 | 11.30 | 13.40 | 11.07 | 16.73 | 10.48 |
| | 14.23 | 8.15 | 5.86 | n/a | -4.12 | 11.62 | 16.35 | 4.52 | -4.28 | 5.66 |
| | 0.89 | 0.19 | 0.12 | n/a | -1.27 | 0.65 | 1.55 | 0.10 | -1.65 | 0.04 |
| INDIA | 0.66 | 1.29 | 0.97 | 1.07 | n/a | 0.77 | 1.19 | 0.73 | 2.79 | 0.96 |
| | 11.19 | 11.58 | 8.37 | 11.52 | n/a | 7.58 | 12.43 | 13.17 | 16.41 | 11.21 |
| | 5.86 | 11.19 | 11.58 | 9.24 | n/a | 10.09 | 9.60 | 5.56 | 17.00 | 8.55 |
| | -0.27 | 0.54 | 0.47 | 0.42 | n/a | 0.10 | 0.56 | 0.33 | 1.85 | 0.41 |
| ISRAEL | 1.44 | 1.27 | 1.37 | 1.23 | 0.66 | 1.08 | 0.78 | 0.72 | 0.36 | 1.43 |
| | 9.48 | 9.98 | 10.56 | 8.22 | 8.71 | 7.59 | 8.03 | 8.10 | 10.81 | 10.56 |
| | 15.22 | 12.73 | 13.01 | 14.92 | 7.55 | 14.28 | 9.74 | 8.85 | 3.37 | 13.55 |
| | 0.52 | 0.51 | 0.88 | 0.59 | -0.15 | 0.42 | 0.15 | 0.32 | -0.57 | 0.88 |
| MALAYSIA | 0.77 | 0.22 | 0.64 | 0.49 | 0.29 | 3.47 | 0.89 | 0.60 | 1.64 | 0.34 |
| | 8.10 | 10.93 | 9.88 | 8.69 | 8.47 | 9.62 | 11.09 | 9.32 | 16.53 | 8.41 |
| | 9.47 | 1.97 | 6.47 | 5.64 | 3.46 | 36.07 | 8.07 | 6.43 | 9.93 | 4.03 |
| | -0.16 | -0.54 | 0.14 | -0.15 | -0.51 | 2.81 | 0.26 | 0.20 | 0.71 | -0.21 |
| MEXICO | n/a | 1.87 | -0.11 | 0.73 | 0.49 | 2.39 | 1.27 | n/a | n/a | 1.42 |
| | n/a | 12.14 | 12.66 | 9.09 | 11.92 | 12.19 | 11.19 | n/a | n/a | 9.42 |
| | n/a | 15.40 | -0.90 | 8.01 | 4.11 | 19.63 | 11.39 | n/a | n/a | 15.03 |
| | n/a | 1.11 | -0.61 | 0.09 | -0.32 | 1.73 | 0.64 | n/a | n/a | 0.86 |
| PAKISTAN | 1.23 | 0.74 | 1.22 | 0.43 | 1.66 | 0.61 | 1.07 | 0.11 | n/a | 0.57 |
| | 12.38 | 9.90 | 9.97 | 16.44 | 30.18 | 9.75 | 11.72 | 12.70 | n/a | 12.50 |
| | 9.90 | 7.44 | 12.19 | 2.62 | 5.49 | 6.29 | 9.15 | 0.89 | n/a | 4.53 |
| | 0.30 | -0.02 | 0.72 | -0.21 | 0.85 | -0.05 | 0.44 | -0.29 | n/a | 0.01 |
| PERU | 1.23 | 1.09 | 0.55 | 4.01 | 2.28 | n/a | 1.47 | 1.60 | n/a | 0.73 |
| | 17.56 | 7.96 | 5.99 | 25.09 | 21.51 | n/a | 6.69 | 16.72 | n/a | 6.54 |
| | 7.03 | 13.71 | 9.13 | 15.99 | 10.61 | n/a | 21.94 | 9.59 | n/a | 11.10 |
| | 0.31 | 0.33 | 0.05 | 3.37 | 1.47 | n/a | 0.83 | 1.20 | n/a | 0.17 |
| PHIL | 0.54 | 0.60 | 0.44 | 0.19 | 0.84 | n/a | 0.43 | 0.55 | n/a | 0.62 |
| | 14.66 | 17.36 | 8.19 | 11.56 | 12.09 | n/a | 10.23 | 8.99 | n/a | 11.47 |
| | 3.71 | 3.47 | 5.42 | 1.61 | 6.93 | n/a | 4.24 | 6.13 | n/a | 5.44 |
| | -0.38 | -0.16 | -0.05 | -0.45 | 0.03 | n/a | -0.20 | 0.15 | n/a | 0.07 |
| POLAND | 1.11 | 1.79 | 0.80 | 1.40 | 0.30 | n/a | 1.20 | 0.64 | 0.57 | 1.30 |
| | 10.47 | 12.36 | 8.54 | 11.73 | 10.83 | n/a | 10.90 | 10.70 | 12.66 | 12.99 |
| | 10.61 | 14.45 | 9.39 | 11.95 | 2.79 | n/a | 10.99 | 5.96 | 4.51 | 10.03 |
| | 0.19 | 1.03 | 0.31 | 0.76 | -0.51 | n/a | 0.56 | 0.24 | -0.36 | 0.75 |
| RUSSIA | 1.99 | 2.45 | 2.32 | 3.91 | 2.83 | 1.22 | 3.50 | 1.72 | n/a | 1.82 |
| | 14.48 | 13.34 | 12.26 | 15.77 | 19.60 | 17.17 | 21.51 | 16.10 | n/a | 18.85 |
| | 13.77 | 18.39 | 18.88 | 24.77 | 14.44 | 7.13 | 16.28 | 10.67 | n/a | 9.67 |
| | 1.07 | 1.69 | 1.82 | 3.27 | 2.02 | 0.56 | 2.87 | 1.32 | n/a | 1.27 |
| SINGAPORE | 1.05 | 1.21 | 1.16 | 0.63 | 0.64 | 0.67 | 0.68 | 0.43 | 0.14 | 3.13 |
| | 12.13 | 14.33 | 11.19 | 7.11 | 7.42 | 8.03 | 8.91 | 7.07 | 14.58 | 15.80 |
| | 8.67 | 8.44 | 10.34 | 8.89 | 8.60 | 8.38 | 7.59 | 6.08 | 0.96 | 19.81 |
| | 0.13 | 0.45 | 0.66 | -0.01 | -0.17 | 0.01 | 0.04 | 0.03 | -0.79 | 2.58 |
| SOUTH AFRICA | 1.26 | 0.98 | 1.45 | 1.03 | 0.88 | 1.04 | 0.95 | 2.12 | n/a | n/a |
| | 10.26 | 12.40 | 11.11 | 10.17 | 9.83 | 9.32 | 9.47 | 13.89 | n/a | n/a |
| | 12.32 | 7.93 | 13.04 | 10.12 | 8.94 | 11.17 | 9.99 | 15.23 | n/a | n/a |
| | 0.34 | 0.23 | 0.95 | 0.39 | 0.07 | 0.38 | 0.31 | 1.72 | n/a | n/a |
| SRI LANKA | 1.78 | n/a | 0.84 | 0.48 | 0.89 | n/a | 0.59 | 0.45 | n/a | -9.26 |
| | 9.59 | n/a | 8.94 | 9.72 | 9.62 | n/a | 8.85 | 9.55 | n/a | 6.98 |
| | 18.56 | n/a | 9.39 | 4.91 | 9.28 | n/a | 6.63 | 4.71 | n/a | -132.72 |
| | 0.86 | n/a | 0.34 | -0.16 | 0.08 | n/a | -0.05 | 0.05 | n/a | -9.81 |
| TAIWAN | 1.20 | 0.84 | 0.74 | 0.03 | 0.84 | n/a | 0.01 | 0.42 | 1.20 | n/a |
| | 6.94 | 7.91 | 9.39 | 8.37 | 10.89 | n/a | 10.20 | 6.42 | 11.93 | n/a |
| | 17.24 | 10.61 | 7.92 | 0.35 | 7.75 | n/a | 0.05 | 6.61 | 10.08 | n/a |
| | 0.27 | 0.08 | 0.25 | -0.61 | 0.04 | n/a | -0.63 | 0.02 | 0.27 | n/a |
| THAI | 1.25 | 0.98 | 1.02 | 0.75 | 1.47 | 0.82 | 0.38 | 0.66 | 1.26 | 0.89 |
| | 11.04 | 16.20 | 13.23 | 9.41 | 14.21 | 8.89 | 14.34 | 12.73 | 15.88 | 10.26 |
| | 11.29 | 6.04 | 7.67 | 7.95 | 10.38 | 9.24 | 2.62 | 5.20 | 7.94 | 8.67 |
| | 0.32 | 0.22 | 0.52 | 0.11 | 0.67 | 0.16 | -0.26 | 0.26 | 0.33 | 0.34 |
| TURKEY | 1.92 | 2.32 | 1.83 | 1.96 | 2.08 | 3.07 | 2.32 | 2.05 | 3.36 | 2.64 |
| | 17.21 | 16.75 | 15.58 | 18.81 | 17.33 | 16.69 | 16.96 | 19.42 | 21.29 | 19.11 |
| | 11.13 | 13.83 | 11.74 | 10.44 | 11.99 | 18.40 | 13.66 | 10.54 | 15.79 | 13.80 |
| | 0.99 | 1.56 | 1.33 | 1.32 | 1.27 | 2.41 | 1.68 | 1.65 | 2.43 | 2.08 |

Table B.1: Excess Returns: Summary Statistics. Statistics are computed for 10 different industries 23 different countries. For each country, the first and second line report the mean and standard deviation of the industries' excess returns. Line 3 shows the average Sharpe ratios. For emerging markets only, the last line provide the average spread between the emerging and the US stock excess returns, computed as in 3.2. Values are computed on monthly basis and expressed in percentage points. The sample goes from Jan 95 (or later) to Jun 12.

# C International Comovements

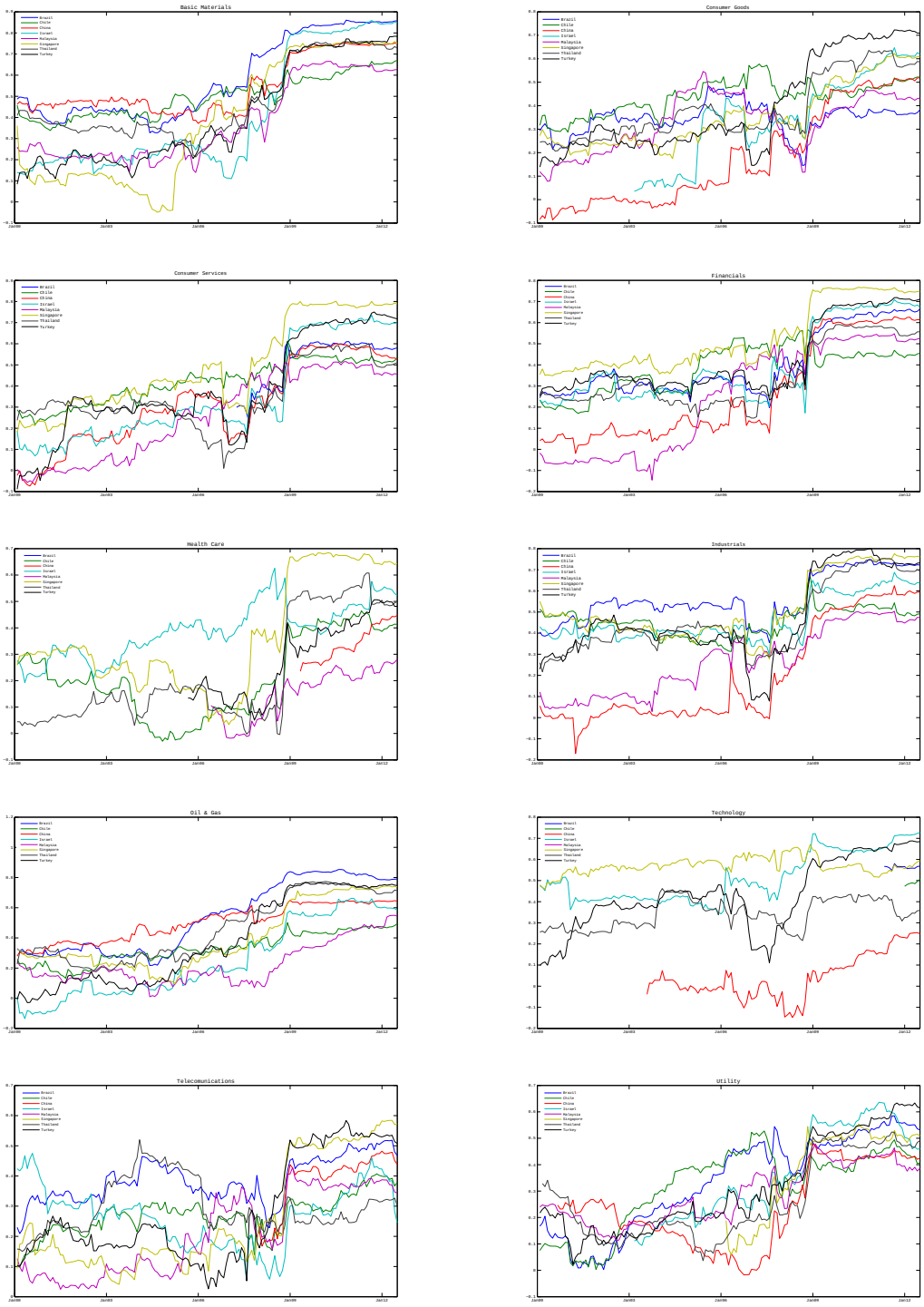


Figure C.1: Industry-by-Industry Rolling Correlation Coefficients. Correlation coefficients are estimated using a rolling sample of 60 months. The US stock market is used as benchmark. The sample period goes from Jan 95 (or later) to Jun 06.

# References


[1] Ang, A., Hodrick R. J., Xing Y. and Zhang, X. (2009) "High idiosyncratic volatility and low returns: International and further U.S. Evidence" *Journal of Financial Economics* 91, 1-23.

[2] Bekaert G. (1995). "Market Integration and Investment Barriers in Emerging Equity Markets". *World Bank Economic Review*, 9, 75-107.

[3] Bekaert G., Claude, B. E., Harvey C. R. and Viskanta, T. E. (1998). "Distributional Characteristics of Emerging Market Returns and Asset Allocation". *Journal of Portfolio Management*, Winter, 102-116.

[4] Bekaert G. and Harvey C. R. (1995). "Time-Varying World Market Integration". *Journal of Finance*, 50, 403-444.

[5] Bekaert G. and Harvey C. R. (1997). "Emerging Equity Market Volatility". *Journal of Financial Economics*, 43, 29-78.

[6] Bekaert G. and Harvey C. R. (2000). "Capital Flows and the Behavior of Emerging Market Equity Returns". NBER Chapters, in: Capital Flows and the Emerging Economies: Theory, Evidence, and Controversies, pages 159-194 National Bureau of Economic Research, Inc.

[7] Bekaert G., Harvey C. R. and Lundblad C. (2007). "Liquidity and Expected Returns: Lessons from Emerging Markets". *Review of Financial Studies*, 20(6), 1783-1831.

[8] Brooks R., Del Negro, M. (2002). "International stock returns and market integration: A regional perspective", Reserve Bank of Atlanta in its series Working Paper with number 2002-20 and IMF working paper 02/2002.

[9] Black, F., Jensen, M. C and Scholes, M. (1972). "The Capital Asset Pricing Model: Some Empirical Tests", in Jensen, M. (ed.), Studies in the Theory of Capital Markets, Praeger, New York.

[10] Carrieri, F., Errunza, V. and Hogan, K. (2007). "Characterizing World Market Integration through Time". *Journal of Financial and Quantitative Analysis*, 42(4), 915-940.

[11] Chari, A. and Henry, P. B. (2004). "Risk Sharing and Asset Prices: Evidence from a Natural Experiment". *Journal of Finance*, 59(3), 1295-1324.

[12] Corsetti, G., Pericoli, M. and Sbracia, M. (2005). "Some Contagion, Some Interdependence: More Pittfalls In Tests of Financial Contagion". *Journal of International Money and Finance*, 24 (8), 1177-1199.

[13] De Nicoló, G. and Juvenal, L. "Financial Integration, Globalization, and the Real Activity', 2012. CESifo working paper n. 3737.

[14] De Jong, F. and De Roon, F. A. (2005). "Time Varying Market Integration and Expected Returns in Emerging Markets". *Journal of Financial Economics*, 78, 583-613.

[15] Donadelli, M. and Prosperi, L. (2012,a). "The Equity Risk Premium: Empirical Evidence from Emerging Markets". CASMEF Working Paper 2012/01.

[16] Donadelli, M. and Prosperi, L. (2012,b). "On the Role of Liquidity in Emerging Markets Stock Prices". *Research in Economics*, forthcoming.

[17] Eiling, E, Gerard B., Hillion P. and de Roon F. A. (2012) "International Portfolio Diversification: Currency, Industry and Country Effect Revised". *Journal of International Money and Fiance* n. 31, 1249-1278.

[18] Estrada, J. (2000). "The cost of equity in emerging markets: A downside risk approach". *Emerging Markets Quarterly*, 4, 19-30.

[19] Harvey, C. R. (1991). "The World Price of Covariance Risk". *Journal of Finance*, 46, 111-157.

[20] Harvey, C. R. (1995). "Predictable Risk and Returns in Emerging Markets". *Review of Financial Studies*, 8, 773-816.

[21] Henry, P. (2000). "Stock Market Liberalization, Economic Reform and Emerging Market Equity Prices". *Journal of Finance*, 55, 529-564.

[22] Jensen, M. C. (1968), "The Performance of Mutual Funds in the Period 1945-1964". *Journal of Finance*, 23, 389-416.

[23] Mehra, R. (2012). "Consumption-Based Asset Pricing Model". *Annual Review of Financial Economics*, forthcoming.

[24] Roll, R. (1992). "Industrial structure and the comparative behavior of international stock market indices". *Journal of Finance*, 42, 3-41.

[25] Salomons, R. and Grootveld, H. (2003). "The Equity Risk Premium: Emerging vs. Developed Markets". *Emerging Markets Review*, 4(2), 121-144.

[26] Serra, A. P. (2000). "Country and industry factors in returns: evidence from emerging markets' stocks". *Emerging Markets Review*, 1, 127-151.